



# Civil, Architectural and Environmental Engineering



## Advance your career with the University of Miami's Master's and Doctoral Degrees

The Department of Civil, Architectural and Environmental (CAE) Engineering offers graduate programs leading to Master of Science (MS) and Doctor of Philosophy (PhD) degrees in the following areas:

➤ **Civil Engineering**

- Master of Science in Civil Engineering
- 5-year Bachelor of Science + Master of Science (BSCE+MSCE)
- Doctor of Philosophy in Civil Engineering

➤ **Architectural Engineering**

- Master of Science in Architectural Engineering
- Doctor of Philosophy in Civil Engineering (Architectural Eng. emphasis)

➤ **Environmental Engineering**

- Master of Science in Civil Engineering (Environmental Eng. emphasis)
- Doctor of Philosophy in Civil Engineering (Environmental Eng. emphasis)



## Graduate Degree Programs

*Transforming Lives Through Education,  
Research, Innovation and Service*



# Program Highlights

## WHY CHOOSE THE U?

- 13 full-time faculty with research programs and expertise in structures, materials, nanotechnology, sustainability, energy modeling, water management and treatment systems
- Contemporary laboratories and access to shared scientific equipment on multiple campuses
- Research collaborations with the College of Arts & Sciences, School of Architecture, Rosenstiel School of Marine and Atmospheric Science, and the Miller School of Medicine
- Accredited by the Southern Association of Colleges and Schools (SACS)
- Fellowships and competitive financial support packages



A faculty advisor (of your choice) will help you tailor your educational experience and graduate degree to include one or more of our areas of specialization:

- Structural engineering and construction materials
- Environmental and water-resources engineering
- Integrated building engineering and sustainable development

## CORE FACULTY

### CIVIL

- **Ali Ghahremaninezhad:** Solid mechanics, multiscale modeling and characterization of materials, computational mechanics, and failure analysis of materials
- **James Giancaspro:** Engineering education, structures, material testing, reinforced concrete, aerospace and civil infrastructure applications of composite materials
- **Antonio Nanni:** Construction materials; structural design; field applications, including evaluation and repair; civil infrastructure sustainability and renewal
- **Luis Ruiz Pestana:** computational materials science and chemistry, multiscale modeling, nanomechanics of materials
- **Landolf Rhode-Barbarigos:** Form-finding, analysis and optimization; space engineering and construction; resilience and sustainability; computer-aided engineering
- **Wimal Suaris:** Fracture mechanics, non-destructive testing, wind effects on structures, structural engineering
- **Prannoy Suraneni:** Concrete durability and sustainability, cement chemistry, alternate and supplementary cementitious materials, chemical admixtures
- **Derin Ural:** Geotechnical engineering; liquefaction; earthquakes; disaster management

### ARCHITECTURAL

- **Matthew Trussoni:** Life cycle assessment (LCA) of structures, building information modeling applications, composite construction materials and fracture mechanics
- **Gang Wang:** District heating and cooling systems, heat and mass transfer, renewable energy, modeling, control, optimization of mechanical and power systems

### ENVIRONMENTAL

- **David Chin:** Fate and transport of contaminants in natural systems, environmental risk assessment, hydrology, stormwater management, remediation of impaired waters
- **James Englehardt:** Sustainable water management; development of energy-positive, nutrient-recovering net-zero water treatment systems; water quality risk detection
- **Helena Solo-Gabriele:** Environmental engineering, contaminant transport, fate of microbes and metals; relationships between the environment and public health

Learn about our faculty: [cae.coe.miami.edu/people/faculty](http://cae.coe.miami.edu/people/faculty)



# Admission and Financial Assistance

## FINANCIAL ASSISTANCE

- **Doctor of Philosophy (PhD)**
  - Teaching and research assistantships, including full tuition and full stipend, are available on a competitive basis for accepted PhD students.
  - Contact a professor working in your area of interest for financial support.
  
- **Master of Science (MS)**
  - Partial tuition scholarships (up to 40%, based on academic record) are awarded on a competitive basis.
  - MS students in environmental engineering may be eligible for support from the Environmental Engineers of the Future. For more information, please visit [engineeringmastersfunding.org/EMastersFunding](http://engineeringmastersfunding.org/EMastersFunding)



## UNDERGRADUATE REQUIREMENTS

Students with non-engineering baccalaureate degrees may be admitted to the graduate program upon completion of (a) the regular graduate degree requirements, and (b) deficiency courses, which include:

1. Calculus (6 credits)
2. Advanced Mathematics (6 credits)
3. General Chemistry (3 credits)
4. Calculus-based Physics (7 credits)
5. Statics (3 credits)
6. Engineering Science related to area of study (3 credits)
7. Engineering Design related to area of study (3 credits)

## ADMISSIONS GUIDELINES

Applicants must provide academic transcripts, reference letters and scores on standardized tests. The general admissions guidelines are summarized below. GRE scores are required for applications to the PhD program. For applications to the MS programs, GRE scores are not required, but are recommended.

Degree Sought	Degree Held	GRE	GPA (4-pt)	English Assessment (International Students)	Financial Aid Availability
PhD	BS in Engineering	Required	3.5	TOEFL IBT: 80	✓
PhD	MS	Required	3.5		TOEFL PBT: 550
MS	BS	Optional	3.0	IELTS: 6.5	✓
BS+MS	-	Optional	3.0		✓



# More Information

## ONLINE RESOURCES



- **UM CAE Graduate Program Requirements**  
[Engineering Admissions](#)
- **UM Graduate School Helpful Links and Resources**  
[Graduate School](#)
- **Prospective MS and PhD Admission and Application Information**  
[Online application menu](#)



## CONTACTS

- Questions regarding the application process, financial aid, and the M.S. program:  
**David Poole**, College of Engineering Director of Admissions  
McArthur Engineering Building, Suite 251  
[dtpoole@miami.edu](mailto:dtpoole@miami.edu) (305) 284-4773
- Questions regarding your application status and receipt of documents:  
**Ruth Castillo**, CAE Graduate Program Secretary  
McArthur Engineering Building, Suite 325  
[res202@miami.edu](mailto:res202@miami.edu) (305) 284-3391
- Questions related to coursework, PhD support and areas of research: please contact a faculty member who specializes in your desired area of study.
- All other questions may be directed to:  
**James Giancaspro, PhD**, Graduate Program Director in the Department of Civil, Architectural, and Environmental Engineering  
McArthur Engineering Building, Suite 323  
[jwgiancaspro@miami.edu](mailto:jwgiancaspro@miami.edu)

